

CLAIMS

1. A vinyl polymer having at least one terminal group of the general formula (1) per molecule;

5 $-\text{OC}(\text{O})\text{C}(\text{R})=\text{CH}_2 \quad (1)$

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms.

10 2. The vinyl polymer according to Claim 1 wherein R is hydrogen or a hydrocarbon group of 1 to 20 carbon atoms.

15 3. The vinyl polymer according to Claim 1 ~~or 2~~ wherein R is hydrogen or a methyl group.

4. The vinyl polymer according to ~~any of~~ Claim 1 ~~to 3~~, which is a (meth)acrylic polymer.

20 5. The vinyl polymer according to Claim 4, which is an acrylic ester polymer.

25 6. The vinyl polymer according to ~~any of Claims 1 to~~ ^{claim 1} which is a styrenic polymer.

7. The vinyl polymer according to ~~any of Claims 1 to~~ ^{claim 1} which is obtainable by living radical polymerization.

30 8. The vinyl polymer according to Claim 7 wherein said living radical polymerization is atom transfer radical polymerization.

35 9. The vinyl polymer according to Claim 8 wherein the transition metal complex catalyst for said

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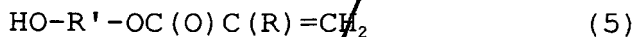
13. The vinyl polymer according to any of Claims 1 to 11, ~~claim 1~~
which is obtainable by reacting a hydroxy-terminated vinyl polymer with a compound of the general formula (4):

$$\text{XC(O)C(R)=CH}_2 \quad (4)$$

wherein R represents halogen or an organic group containing 1 to 20 carbon atoms; X represents chloro, bromo, or a hydroxyl group.

14. The vinyl polymer according to ~~any of Claims 1 to 11~~ ^{11/2} ~~claim 1~~

which is obtainable by reacting a hydroxy-terminated vinyl polymer with a diisocyanate compound and further causing the residual isocyanate group to react with a compound of the general formula (5):



wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms; R' represents a bivalent organic group containing 2 to 20 carbon atoms.

15. The vinyl polymer according to ~~any of Claims 12 to 14~~ ¹⁴ ~~claim 1~~

wherein R is hydrogen or a hydrocarbon group of 1 to 20 carbon atoms.

16. The vinyl polymer according to Claim 15 wherein R is hydrogen or a methyl group.

17. The vinyl polymer according to ~~any of Claims 1 to 16~~ ¹⁶ ~~claim 1~~

the number average molecular weight of which is not less than 3000.

18. The vinyl polymer according to ~~any of Claims 1 to 17~~ ¹⁷ ~~claim 1~~

wherein the ratio of weight average molecular weight (Mw) to number average molecular weight (Mn) as determined by gel permeation chromatography [Mw/Mn] is less than 1.8.

19. A curable composition comprising the vinyl polymer according to ~~any of Claims 1 to 18~~ ¹⁸ ~~claim 1~~.

20. The curable composition according to Claim 19 comprising a radical-polymerizable group-containing monomer

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29. The curable composition according to Claim 28

30. An aqueous emulsion comprising the vinyl polymer according to ~~any of Claims 1 to 18.~~ ^{claim}

31. An aqueous emulsion comprising the curable composition according to claim 19 ~~any of Claims 19 to 29~~.

32. A method of protecting a substrate which comprises covering the substrate with the aqueous emulsion according to Claim 31 and curing the emulsion in situ.

15 33. A pressure sensitive adhesive composition
comprising the curable composition according to any of Claims
19 to 29 or the aqueous emulsion according to Claim 31.

34. A pressure sensitive adhesive obtainable from the
20 pressure sensitive adhesive composition according to Claim 33.

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